FSM
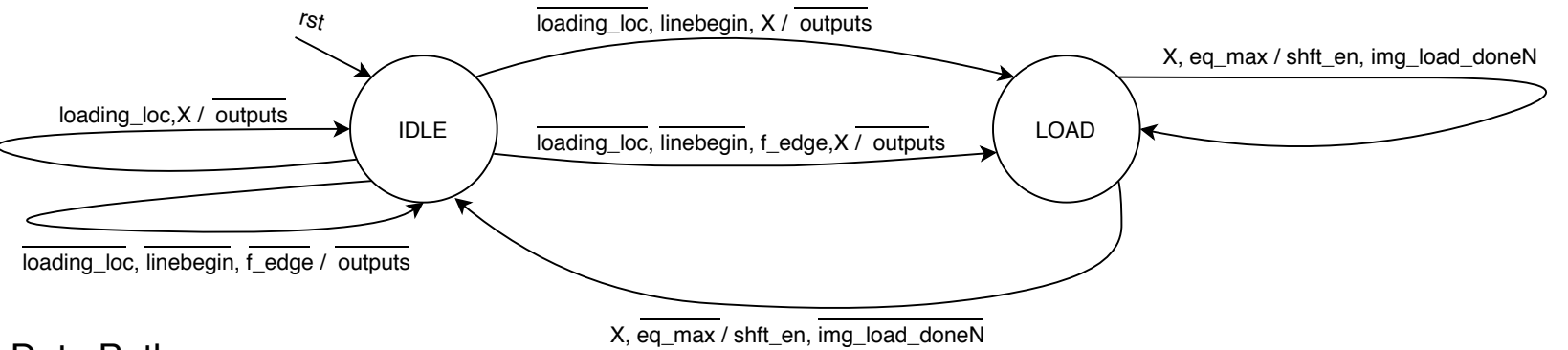
Inputs: loading_loc, linebegin, f_edge, eq_max
Outputs: img_load_doneN, shft_en

rst

loading_loc, linebegin, X / $\overline{\text{outputs}}$

X, eq_max / shft_en, img_load_doneN

loading_loc,X / $\overline{\text{outputs}}$

IDLE

loading_loc, linebegin, f_edge,X / $\overline{\text{outputs}}$

LOAD

loading_loc, linebegin, f_edge / $\overline{\text{outputs}}$

X, $\overline{\text{eq\_max}}$ / shft_en, $\overline{\text{img\_load\_doneN}}$

Data Path

linebegin
loading_loc

To FSM

From FSM

state

== LOAD

+1
Counter
[2:0]   cnt

== 3'd5

shft_en

set_zero

img_load_doneN

shift

Shift Reg.
[4:0]

in   out[4:0]

== 0

load_en[4:0]

img_load_done

mem_addr_0[8:0]
mem_addr_1[8:0]
mem_addr_2[8:0]
mem_addr_3[8:0]
mem_addr_4[8:0]

mem_addr_out[8:0]